METHOD FOR EFFICIENTLY RETRIEVING SCSI ACCESSED FAULT-TOLERANT ENCLOSURE STATUS

ABSTRACT

A method for determining a change in the SAF-TE enclosure status and a change in the SAF-TE device slot status, each with a single issuance of one new command, replacing countless re-issuance of similar commands. Use is made of a common disconnection/reconnection capability as well as a tagged command queuing technique, such that multiple types of status changes in a SAF-TE enclosure are concurrently determined. Since each of the new commands described here is initiated by the host adapter, the host adapter is prepared for receiving asynchronously a changed status from the reconnecting target device such as a SEP whenever it becomes available, without resorting to use of a complex SCSI protocol known as "asynchronous event notification." Status fields in the data packets transferred by the commands introduced in this invention may be the same as those in conventional systems, and so the inventive commands are a natural extension to conventional systems and may be adapted while maintaining compatibility with existing hardware and protocols. Removes stringent SEP response time requirements and causes negligible host system performance impact independent of how many SAF-TE enclosures are attached to the host adapter. Provides for use of an optional convenience timer for the SAF-TE Processor (SEP) device to check in with its current status before a status change occurs. Maintains backward compatibility by detection of an absence of the "tagged command queuing" indicator in inquiry data from the SEP device with implementations that do not support the inventive commands. Computer software and firmware implementations are provided.